

Chairman Dennis Catoctin District

Commission / Industry Overview

Communications Commission Overview

- Original focus on Open Video – defined in VA Code
- Mission expanded to include “Communications
- Focus on current & future need
- Volunteers serve in advisory capacity to BoS
- Advocate on behalf of citizens
- 100% of Western Loudoun complaints/issues during current tenure have been broadband related

Telecom Industry Overview

- Telephony traditionally primary/most important svc.
 - Regulated by FCC
 - Heavily taxed – still paying taxes for Spanish American War
- Video regulated by FCC & State Code
 - County has jurisdiction for franchising terrestrial video services delivery (cable)
 - Current franchise agreements (Verizon and Comcast) date to 2006.

Overview Continued

- No County jurisdiction over internet, wireless
 - Treated as incidental service over video network
 - Only control over wireless is in permitting physical infrastructure (e.g. towers, poles)
- Net Neutrality uncertainty
 - New FCC rules will be highly contested in the courts, and take years to sort out
 - Reclassifying internet as a telecommunications service places under Title II, dating back to 1980's meant for regulating monopoly phone service
 - Creates significant uncertainties, both short and long-term
 - Uncertainties hamper investment

Overview Continued

- Vital that our community recognize the changes
 - Cable is diminishing means of delivering video
 - Becoming broadband centric
 - Wired telephony being replaced by cellular and internet-telephony
 - Both video and telephony becoming services over a broadband IP network

We think we meet density, why cant we have service?

- Most common question/issue we see at Commission
- Service predicated on houses/mile
 - Not contracted subscribers
- From most feasible network connection point
 - Not your neighbor's house that has service
- Route Miles not same as road miles
- Might later reach it due to new homes or changes in proximity of connection point.
- Franchisees very responsive to formal request via Commission process

Commissioner Foster Blue Ridge District

Commission Actions

Communications in Loudoun:

A Tale of Two Counties

- Eastern Loudoun: generally good broadband & cellular coverage: grade B+
 - Hosts one of largest internet peering points for network operators in the world (Equinix IBX Ashburn)
- Western Loudoun: poor wired broadband availability, limited DSL, poor cellular coverage, spotty WISP coverage: grade F
 - FCC 2010 definition of broadband: 4 Mbps down
 - 10K – 30K households estimated to be underserved, primarily in Blue Ridge and Catoctin Districts
 - Constitutes a significant portion of the population of the Western districts!
- Overall grade: D

Importance of Broadband

- Loudoun County Public Schools (LCPS) are moving to e-books, online homework, video streaming lectures, to save cost
- Necessary for employee remote access, virtual commuting
- Essential to quality-of-life (e.g. media, streaming, e-banking)
- An economic development issue for the county (e.g. FBI headquarters selection)

Western Loudoun's Quandary

- Hilly and generally wooded topography
 - Reducing wireless coverage areas and thereby requiring more towers
- Rural density
 - Making wired broadband dis-economical except in higher density areas
- Limited wired franchisee's
 - Of current two well-capitalized, one only is actively investing in national expansion
- Small local wireless internet service providers (WISPs)
 - WISPs operating in County are small, local, and generally capital constrained
- Strained tower capacity
 - Prior BoS's approved relatively few towers, leading to systemic tower scarcity and spotty coverage
 - Virginia recently lowered allowable mechanical loads for towers, further reducing capacity of existing towers
 - Cellular internet and telephone subscriber growth increasing tower demand
- Limited backhaul to existing towers
 - Cell carriers generally install dedicated backhaul fiber, which WISPs can not afford to do
- Wireless technology and licensing
 - 900MHz is only unlicensed band currently available to WISPs that can propagate through foliage, but is very crowded, requiring neighborhood repeaters

Strategic Context of Wireless

- Existing County franchise cable providers (Verizon, Comcast) are the only providers of wired broadband to public
- Limited service availability in the West
- Current franchise agreements have varying and disputed obligations for build-out, but lack specific performance remedies or penalties sufficient to warrant the investment needed to complete build out throughout the West
- Therefore, wireless is essential as a distribution technology for broadband in the West
- Poor cell coverage in West is also a public safety issue
- Both are strategic economic development issues for the County

Wireless Gap Conclusions

- Broadband/WISP coverage, needed as alternate broadband technology, unavailable to most of West
 - Cellular internet alternatives not generally adequate for broadband (e.g. data caps)
- **Need minimum of 36 (120 ft) – 59 (80 ft) monopoles** for WISP coverage in West
- **Need minimum of 14-28 (≥ 120 ft) additional cell towers** in West
- Insufficient County vertical assets in West to provide most of these sites
- Wireless antenna structures generally require a Special Exemption Permit process, requiring Planning Commission and Board of Supervisor (BoS) approvals
 - 1.3 towers approved per year on average
- **Neither cable franchise management or monopole permitting measures are likely to materially impact broadband availability in Western Loudoun**

Recommendations

- County adopt pro-wireless infrastructure policies, e.g.:
 - New Zoning Ordinance Amendments (ZOAM) to enable consideration of pole applications in PDH, Hamlet, and Mountain Overlay districts
 - By-Right ZOAM for 80' monopoles or less meeting prescribed performance requirements
 - Expedited process for 80-120' AGL stealth monopoles
 - Designate Permitted Commercial Tower Development Areas (PCTDA) for zoning and planning purposes
 - Policy preference for tower applications conforming to open (shared) access requirements
- Encouragement of development of shared infrastructure
 - Communications Commission preparing recommendations for public private partnership (PPP) options to facilitate

Commission Goals

- Ubiquitous Broadband
 - Move the needle on speed, cost/Mbps, and availability materially in the West
- Focus on establishment of wireless distribution infrastructure to facilitate
- Development and socialization of comprehensive strategy to accomplish
- Migrate franchise management from video centric to broadband centric; from passive to active
- Coordinate with County organs to achieve alignment